

REMARKS

Claims 1-6, 8-15, and 17-22 are pending and stand rejected. In response, claims 1, 5, 6, 14 and 15 are amended, claims 12, 13, 21 and 22 are canceled, and claims 23-26 are added. Claims 1-6, 8-11, 14-15, 17-20, and 23-26 are pending upon entry of this amendment. Support for the new claims is found throughout the specification. For example, support for claim 23 is found at page 11, lines 11-17. Support for claim 24 is found at page 10, lines 9-12. Support for claim 25 is found at page 13, lines 12-16. Support for claim 26 is found at page 15, lines 1-5.

35 U.S.C. § 101 Rejections

Claims 5, 6, 8-15 and 17-22 stand rejected under 35 U.S.C. § 101 because the claimed invention is allegedly directed to non-statutory subject matter. Specifically, the Examiner states that “the claimed subject matter provides for a final step of adjusting authorized database access by changing settings” and “this produced result is not made tangible to a user, and thus remains in the abstract and fails to achieve the required status of having real world value.”

Applicants respectfully traverse this rejection as applied to the amended claims. Independent claim 5 recites a computer-implemented method and independent claim 14 recites a computer-readable medium. The claims thus fall within the enumerated categories of patentable subject matter recited in § 101.

Once it is established that the claims fall within enumerated categories of patentable subject matter, the next step of the § 101 analysis is to determine whether the claims are directed to a practical application of an abstract idea. As stated in the MPEP, a claimed invention is directed to a practical application of an abstract idea when it transforms an article or physical

object to a different state or thing or otherwise produces a useful, concrete and tangible result.

MPEP 2106 IV. C. 2.

Here, the amended claims both transform a physical object and produce a useful, concrete and tangible result. Claim 5 recites the step of:

adjusting authorized database accesses taking into account results of the comparing step **by changing settings within a database access control module of a computer-implemented database server** to deny future database access to operations by certain users on database tables and columns that were previously authorized but were not observed during the observing step.

Similarly, independent claim 14 recites computer program instructions for:

adjusting authorized database accesses taking into account results of the comparing step **by changing settings within a database access control module of a computer-implemented database server** to deny future database access to operations by certain users on database tables and columns that were previously authorized but were not observed during the observing step.

The database access control module of the computer-implemented database server is a physical object that is transformed to a different state when its settings are changed. Changing the settings of the database access control module also constitutes a tangible result because it affects a real-world object. The claimed result is similar to that recognized as tangible by the United States Court of Appeals for the Federal Circuit in the State Street decision. In that case, the court stated that

the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces a “useful, concrete and tangible result” – a final share price **momentarily fixed for recording and reporting purposes** and even accepted and relied upon by regulatory authorities and in subsequent trades.

State Street v. Signature, 149 F.3d 1368, 1373 (Fed. Cir. 1998) (emphasis added). Here, similar to State Street, the final result is a tangible changing of settings in a database access control

module that is used for recording, reporting, and other purposes. Both independent claims are therefore statutory under § 101.

Claims 6 and 15 respectively depend from claims 5 and 14 and recite “generating and storing at least one report based upon observing actual accesses to the database.” This report constitutes a useful, tangible, and concrete result.

For these reason, Applicants traverse the § 101 rejection. If the Examiner maintains this rejection, Applicants respectfully request that the Examiner provide a legal justification for the rejection with citations to appropriate case law so that Applicants can more fully address the Examiner’s concerns.

35 U.S.C. § 103 Rejections

Claims 1-3, 5, 8, 9, 11-12, 14, 17, 18, and 20-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mattsson (2003/0101355) in view of Ludwig et al. (2003/0167229). Claims 4, 10, and 19 stand rejected under § 103(a) as being unpatentable over Mattsson in view of Ludwig and further in view of Low et al. (“DIDAFIT: Detecting Intrusions in Databases through Fingerprinting Transactions”). Claims 6, 7, and 15 stand rejected under § 103(a) as being unpatentable over Mattsson in view of Ludwig and further in view of Vaitzblit (2005/0097149). This discussion combines these rejections in order to simplify the issues.

The independent claims are amended to recite limitations related to observing a preselected quantity of database accesses. For example, amended claim 1 recites:

coupled to the database, a command monitoring module configured to monitor actual accesses to the database **until a preselected quantity of actual accesses have been observed;**

Similarly, amended claims 5 and 14 recite:

observing actual accesses to the database **until a preselected quantity of actual accesses have been observed;**

This limitation was previously recited by claims 13 and 22 and is described in the specification at, e.g., page 11, lines 9-11.

In the rejections of claims 13 and 22, the Examiner asserted that the limitation related to observing a preselected quantity of actual accesses is shown by Mattsson at paragraphs 33 and 50. However, a close inspection of Mattsson demonstrates that it does not teach or suggest the claimed limitation. Paragraph 30 states, in total:

[0033] A second component 13 of the intrusion detection module 10 is adapted to store all results from queries including marked items, thereby creating a record 14 of accumulated access of marked items. If advantageous, the record can be kept in a separate log file 15, for long term storage, accumulating data access over a longer period of time.

Thus, paragraph 30 merely discloses that a log file of accumulated data access over a long period of time can be maintained. Paragraph 50 is similarly directed to log files:

[0050] The query result can also be stored in the log file 15 by the intrusion detection module, as described above. The log file 15, which thus contains accumulated query results from a defined time period, can also be compared to the inference patterns 22 in the security profiles 20 of users, roles or servers, this time in a "after the event" type analysis.

Accordingly, neither paragraph identified by the Examiner relates to observing accesses until a preselected quantity of accesses have been observed. Rather, the paragraphs simply describe how a log file of accesses during a defined time period can be maintained. A person of ordinary skill in the art reading Mattsson's teaching of logging accesses during a defined time period would not find it obvious to observe accesses based on quantity instead of time.

The other references also do not teach or suggest observing a preselected quantity of accesses as claimed. Ludwig does not relate to monitoring database transactions. Low describes logging all SQL statements received from a user (§ 4.1) and monitoring over a period

of time (§ 2, third paragraph) but does not discuss observing a preselected quantity of accesses. Vaitzblit describes a data audit system but also does not discuss observing a preselected quantity of accesses. Therefore, a person of ordinary skill in the art considering the teachings of the cited references, either alone or in combination, would not find the claimed invention obvious.

In the Advisory Action, the Examiner states that the “preselected quantity may be the number of accesses observed in a defined time period.” Applicants respectfully disagree with this interpretation of the claim. The pending claims must be “given their broadest reasonable interpretation consistent with the specification.” *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). The specification distinguishes between observing accesses based on a preselected time period and accesses based on a preselected number at page 11, lines 9-11. The Examiner’s interpretation is thus inconsistent with the specification and unreasonable.

Applicants respectfully submit that the claims are patentable for the reasons described above. Accordingly, Applicants respectfully request that the Examiner allow the application and pass it to issue. The Examiner is invited to contact the undersigned to advance the prosecution of this case.

Respectfully submitted,
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